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Hawaii and electric cars

Is the exotic state of sun and sand about to turn into a launching pad for car makers keen to take the green revolution into the US? "Globes" investigates.

Dubi Ben Gedalyahu——7 Sep 08 16:52

With the automobile industry lobby, and US driving habits keeping doors to the US still firmly shut, cars running on alternative fuel sources are now looking for a backdoor entrance to that market. Among those currently looking for such on such an entrance is Project Better Place which is now in advanced negotiations with the state government of Hawaii on the adoption of its electric car and battery charging infrastructure.

A paradise for renewable energy

The selection of Hawaii as fertile ground for environmentally-friendly transport ideas was no coincidence. The secluded chain of islands, located in the middle of the Pacific Ocean, is seen by many as the quintessential paradise - but it nevertheless has a few problems of its own. One of them is its absolute dependence on oil imports delivered through supply routes that are long and costly. As a result the price of fuel there is one of the highest in the US. Gasoline in Hawaii costs $4.60 a gallon, almost a dollar more than in California, considered the continent's record holder for prices.

To reduce the state's dependence on oil, Hawaii's state government of Hawaii has in recent years been actively searching for alternative energy sources, with a view to reducing the pollution generated by cars. The government has set a target of reducing the island's dependence on oil by 70% by 2030, through the transition to renewable energy sources.

Hawaii's biggest attraction for green entrepreneurs is actually not the supportive political climate but rather the natural background conditions, which are ideally suited to alternative propulsion projects. The islands are isolated from their surroundings and are characterized by traveling distances that are fairly short, making them a perfect match for the range of the electric car and the battery charging and replacement model. Even on Big Island, the largest of all the islands in Hawaii, one seldom encounters people who travel more than 150-200 kilometers in one stretch. There is also a high level of awareness and restraint among local residents with regard to air quality.

For entrepreneurs, Hawaii's main advantage is undoubtedly the ability to implement the "virtual oil well" model there, or in other words, the use of renewable energy sources to produce the electricity needed to charge the electric cars.

Hawaii has an abundance of natural sources like these. They include solar energy, thanks to the island's sunny weather nearly 365 days a year, a virtually inexhaustible of geothermal energy generated by the constant volcanic activity on the islands, a varied and sophisticated range of agricultural crops that can provide a source of biological fuel and, most important of all, continuous winds throughout the year.

The strong winds that have made Hawaii a surfer's paradise, contain a potentially enormous source of energy, part of which is already being put to use. The islands already have a number of wind turbine farms in operation. One, located on the island of Maui, has an electricity production capacity of 30 megawatts a year. The state government now has plans to build a further six wind turbine farms on the islands of Maui, Lanai, Molokai, and Oahu. The largest of the six, which is being backed by renewable energy giant UPC, is set to be one of the largest of its kind worldwide with an annual production capacity of 300 megawatts.

The electricity produced from the wind energy alone could amount to a "virtual oil well" that could power 200,000 electric cars. Combined with the thermal solar energy projects now in the pipeline, which when completed could produce as much as 120 kilowatt hours a year, this all adds up to energy resources that could electrify the islands' entire existing fleet of gasoline engine cars, without any additional crude oil needed to be added to the electricity system.

Backdoor entrance

Hawaii, despite its seclusion, is still an integral part of the US and the federal government, which makes it an ideal "back door" to the US market as a whole. This door was opened last January when the US Department of Energy (DOE) signed a memorandum of understanding for the launch of a joint venture with the Hawaiian state government in the development of alternative energy sources.

The first stage will see the allocation of $50 million to nine projects over the next three years, part of which will be provided from the federal budget and the rest by private industrial and research institutions that have an interest in the projects' outcome. Among the projects are a venture focusing on the development of technologies to control, manage, and coordinate the channeling to the national electricity grid from renewable energy sources such as wind and sun. Another project will focus on the development of pumped storage methods, and a third, in which Better Place is likely to take a share, will develop "advanced vehicle technologies."

Better Place's share in the project still remains unclear but there can be no doubting that the model's implementation will be followed worldwide. The Department of Energy, the project's main partner, has a tremendous influence on the US energy economy and the way it is regulated, as well as control over funding for research and development that can turn under-funded ideas into a business reality worth billions.

One clue to the business potential is the attempt to introduce alternative energy sources and a green, sustainable environment in

the large US military forces permanently stationed in the Hawaiian islands. Will we see US soldiers driving around in battery-powered staff cars?

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